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# Extend The Angular Displacement of A Thermal Actuated Scanning Mirror

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## Abstract

MEMS thermal actuators are known for their relatively high mechanical energy output for a given MEMS chip area, however, they are power consuming. This paper presents two novel actuating methods to achieve large scanning angular displacements with low driving voltage and power consumption. Experimental results show that these two driving methods can amplify the mirror angular displacement. Compared to our previous testing results the scanning angle is improved from 18o to 57.degree.. The pulling-up mechanism has reliable performance after 3.6*10/sup 7/ cycles under continuous operation.

Key words：Scanning micromirror;Thermal actuator